

AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A filter for an extracorporeal blood circuit comprising:

a bundle of hollow fibers having an end section encased in a potting material, wherein said end section of potting material has an end surface with open ends of the fibers distributed throughout the end surface and a side surface generally perpendicular to the end surface, wherein an outside diameter of an entirety of the end section is substantially narrower than an outside diameter of the bundle of hollow fibers inward of the end section;

a filter header cap having an inlet connectable to a blood line and an open end sealed around a side surface of the end section of the bundle of hollow fibers, wherein the open end of the cap includes a cap side surface generally parallel to the side surface of the end section of the potting material, wherein the side surface of the end section abuts a cap side surface, and at least one of the side surface of the end section and the cap side surface ~~are~~ is tapered at the abutment, and

a housing including a chamber for the bundle of hollow fiber and a first end to receive the filter header cap and said housing including a second end having an outlet connectable to a blood line,

wherein an outside diameter of the end section is substantially narrower than an

insider diameter of the chamber in the housing.

2. (Original) A filter as in claim 1 wherein the inlet is coaxial with the filter.

3. (Previously Presented) A filter as in claim 1 wherein the end surface

includes a rim area of potting material, wherein the rim area is devoid of the open ends of the fibers and the rim has a width no greater on average than 0.508 mm.

4. (Previously Presented) A filter as in claim 1 wherein the end surface

includes a rim of potting material devoid of the open ends of the fibers and the rim has an average width in a range of 0.025 mm to 0.508 mm.

5. (Original) A filter as in claim 1 wherein the end section is an end of a stem of the bundle extending outward from a disk of the potting material.

6. (Original) A filter as in claim 5 wherein the disk is fitted into the cap and the cap is mounted on a cylindrical tube housing the bundle.

7. (Currently Amended) A filter for an extracorporeal blood circuit comprising:

a bundle of hollow fibers having an end section encased in a potting material, wherein said end section further comprises a stem of fibers and potting material extending from a disk of the potting material, wherein the stem of fibers and potting material has an outside diameter along an entire length of the stem, and the stem outside diameter is substantially narrower than an outside diameter of the disk of potting material and narrower than an outside diameter of the bundle of hollow fibers inward of the end section; and

an end surface of the end section further comprising stem includes open ends of the fibers distributed throughout the end surface including open ends proximate to a perimeter of the end surface, and a

the stem including a stem side surface substantially perpendicular to the end surface of the stem;

a filter housing through which extends said bundle;

a filter housing cap at a first end of said housing, wherein the disk of the potting material is sealed to the filter housing cap;

a filter header cap including an inlet connectable to a blood line and an open end, said cap including a cap side surface substantially perpendicular parallel to the stem side surface of fibers, said cap side surface abuts the stem side surface, and at least one of the cap side surface and stem side surface is tapered along the abutment, and

the housing including a second end having an outlet connectable to a blood line, wherein an inside diameter of the housing is substantially greater than the stem outside diameter.

8. (Previously Presented) A filter as in claim 7 wherein the end surface includes a rim of potting material devoid of the open ends of the fibers and the rim has an average width in a range of 0.025 mm to 0.508 mm.

9. (Original) A filter as in claim 7 wherein the open end of the filter header cap forms an interference fit on the side of the stem.

10. (Original) A filter as in claim 9 wherein a diameter of the stem is greater

than an inner circumference of the filter header cap which seals against the stem in a range of 0.025 mm to 1.27 mm.

11. (Original) A filter as in claim 7 wherein a gap between the end surface and an opposing interior surface of the filter header cap is within a range of 0.381 mm to 1.016 mm.

12. (Original) A filter as in claim 7 wherein a diameter of the end surface is no greater than four times an internal passage diameter of the blood line.

13. (Original) A filter as in claim 7 wherein the end surface has exposed potting material covering less than 50 percent of a total surface area of the end surface.

14. (Original) A filter as in claim 7 wherein a gap between the end surface and an opposing interior of the filter header cap is less than ten percent of a diameter of the end surface.

15. (Original) A filter as in claim 7 wherein the filter header cap is sealed to the filter cap.

16. (New) A filter for an extracorporeal blood circuit comprising:
a bundle of hollow fibers having an end section encased in a potting material, wherein said end section of potting material has an end surface with open ends of the fibers distributed throughout the end surface and a side surface generally perpendicular to the end surface;

the potting material includes a stem extending outward from a disk of the potting material, the stem including the end section of the bundle of hollow fibers and the disk

having a substantially larger cross-sectional area than the stem;

a filter header cap having an inlet connectable to a blood line and an open end sealed around a side surface of the stem, wherein the open end of the cap includes a cap side surface generally parallel to the side surface of the stem, wherein the side surface of the stem abuts the cap side surface, and at least one of the side surface of the end section and the cap side surface is tapered at the abutment, and

a housing including a chamber for the bundle of hollow fiber and a first end to receive the disk of the potting material and said housing including a second end having an outlet connectable to a blood line,

wherein the disk of potting material is a ring around the bundle of a hollow fibers and is substantially devoid of fibers.

17. (New) A filter for an extracorporeal blood circuit comprising:

a bundle of hollow fibers having an end section encased in a potting material, wherein said end section further comprises a stem of fibers and potting material extending from a disk of the potting material, wherein the stem of fibers and potting material has an outside diameter along an entire length of the stem, and the stem outside diameter is substantially narrower than an outside diameter of the disk of potting material;

an end surface of the stem includes open ends of the fibers distributed throughout the end surface including open ends proximate to a perimeter of the end surface,

the stem including a stem side surface substantially transverse to the end surface

of the stem;

a filter housing through which extends said bundle;

a filter housing cap at a first end of said housing, wherein the disk of the potting material is sealed to the filter housing cap;

a filter header cap including an inlet connectable to a blood line and an open end, said filter head cap including a cap side surface substantially parallel to the stem side surface , said cap side surface abuts the stem side surface, and at least one of the cap side surface and stem side surface is tapered along the abutment, and

the housing including a second end having an outlet connectable to a blood line, wherein the disk is a ring of potting material around the bundle of hollow fibers and substantially devoid of said fibers.